
LABORATORY REPORT

July 1, 2011

Tom Jacobsmeyer
Aquaterra Environmental Solutions, Inc.
13 Executive Dr., Suite 1
Fairview Heights, IL 62208

RE: 2011 Cottonwood RDF Flare

Dear Tom:

Enclosed are the results of the samples submitted to our laboratory on June 20, 2011. For your reference, these analyses have been assigned our service request number P1102313.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; United States Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP), Certificate No. L10-3-R1; Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-11-2; Minnesota Department of Health, NELAP Certificate No. 219474; Washington State Department of Ecology, ELAP Lab ID: C946. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Sue Anderson
Project Manager

Client: Aquaterra Environmental Solutions, Inc.
Project: 2011 Cottonwood RDF Flare

CAS Project No: P1102313

CASE NARRATIVE

The samples were received intact under chain of custody on June 20, 2011 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

BTU and CHONS Analysis

The results for BTU and CHONS were generated according to ASTM D 3588-98. The following analyses were performed and used to calculate the BTU and CHONS results.

C2 through C6 Hydrocarbon Analysis

The samples were analyzed according to modified EPA Method TO-3 for C₂ through >C₆ hydrocarbons using a gas chromatograph equipped with a flame ionization detector (FID).

Fixed Gases Analysis

The samples were also analyzed for fixed gases (hydrogen, oxygen/argon, nitrogen, carbon monoxide, methane and carbon dioxide) according to ASTM D 1946 using a gas chromatograph equipped with a thermal conductivity detector (TCD).

Hydrogen Sulfide Analysis

The were also analyzed for hydrogen sulfide per ASTM D 5504-08 using a gas chromatograph equipped with a sulfur chemiluminescence detector (SCD).

Total Gaseous Non-Methane Organics as Methane Analysis

The samples were also analyzed for total gaseous non-methane organics as methane according to modified EPA Method 25C. The analyses included a single sample injection (method modification) analyzed by gas chromatography using flame ionization detection/total combustion analysis.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Use of Columbia Analytical Services, Inc. (CAS) Name. Client shall not use CAS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to CAS any test result, tolerance or specification derived from CAS's data ("Attribution") without CAS's prior written consent, which may be withheld by CAS for any reason in its sole discretion. To request CAS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If CAS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use CAS's name or trademark in any Materials or Attribution shall be deemed denied. CAS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of CAS's name or trademark may cause CAS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

DETAIL SUMMARY REPORT

Client: Aquaterra Environmental Solutions, Inc.
Project ID: 2011 Cottonwood RDF Flare

Service Request: P1102313

Date Received: 6/20/2011
Time Received: 09:30

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)				
								TO-3 Modified - C1C6+ Can	3C Modified - Fxd Gases Can	ASTM D5504-01 - H2S Can	25C Modified - TGNMO+ 1X Can
CW-1	P1102313-001	Air	6/7/2011	13:45	1SC00246	12.11	12.11	X	X	X	X
CW-2	P1102313-002	Air	6/7/2011	14:06	1SC00063	12.01	12.01	X	X	X	X
CW-3	P1102313-003	Air	6/7/2011	14:10	1SC00774	11.58	11.58	X	X	X	X

Canister Samples Chain of Custody Record

TestAmerica Laboratories, Inc. assumes no liability with respect to the collection and shipment of these samples.

P1102313

Client Contact Information		Project Manager: <u>Randy Homburg</u>		<u>LAFO124</u>		1 of 1 COCs	
Company: <u>Aquater Environmental</u>		Phone: <u>(618) 628-2001</u>		Samples Collected By: <u>Robert Hill / Collin Carson</u>			
Address: <u>23 Executive Drive, Ste 1</u>		Email: <u>rhomburg@aquater-env.com</u>					
City/State/Zip: <u>Fairview Heights, IL 62208</u>		Site Contact: <u>Robert H. Hill II</u>					
Phone: <u>(618) 628-2001</u>		LAB Contact: <u>Senia Tabitra</u>					
FAX: <u>(618) 628-2002</u>		Project Name: <u>2011 Cottonwood RDF Flare</u>		Analysis Turnaround Time			
Site: <u>Cottonwood Hills RDF Testing</u>		Standard (Specify) <u>X</u>					
PO #: <u>N/A</u>		Rush (Specify)					

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	TO-3	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
① CW-1	6/7/11	1330	1345	-94	-8	AVG01089	3234				X	X	X						X	+11.92
② CW-2	6/7/11	1349	1406	-100	-9	AVG00474	2916				X	X	X						X	+11.80
③ CW-3	6/7/11	1410	—	-28	-1	AVG00065	4445				X	X	X						X	+11.53

Temperature (Fahrenheit)		* BTU Content ASTM D3588	
	Interior	Ambient	
Start		23°	
Stop		94°	

Pressure (inches of Hg)			
	Interior	Ambient	
Start		29.9	
Stop		29.9	

Special Instructions/QC Requirements & Comments: Instantaneous withdrawal of vacuum, less than one minute.

Samples Shipped by: <u>Robert Hill</u>	Date/Time: <u>6/7/2011 1705</u>	Samples Received by:
Samples Relinquished by:	Date/Time: <u>6/10/11 1100</u>	Received by: <u>[Signature]</u>
Relinquished by: <u>[Signature]</u>	Date/Time: <u>6/18/11 1200</u>	Received by: <u>[Signature]</u>

Sample Acceptance Check Form

Client: Aquaterra Environmental Solutions, Inc. Work order: P1102313
 Project: 2011 Cottonwood RDF Flare
 Sample(s) received on: 6/20/11 Date opened: 6/20/11 by: MZAMORA

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

	Yes	No	N/A
1 Were sample containers properly marked with client sample ID?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 Container(s) supplied by CAS ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 Did sample containers arrive in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 Were chain-of-custody papers used and filled out?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 Did sample container labels and/or tags agree with custody papers?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6 Was sample volume received adequate for analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7 Are samples within specified holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8 Was proper temperature (thermal preservation) of cooler at receipt adhered to?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cooler Temperature _____ °C Blank Temperature _____ °C			
9 Was a trip blank received?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10 Were custody seals on outside of cooler/Box?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Location of seal(s)? _____ Sealing Lid?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were signature and date included?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were custody seals on outside of sample container?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Location of seal(s)? _____ Sealing Lid?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were signature and date included?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11 Do containers have appropriate preservation , according to method/SOP or Client specified information?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is there a client indication that the submitted samples are pH preserved?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were VOA vials checked for presence/absence of air bubbles?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12 Tubes: Are the tubes capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Do they contain moisture?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13 Badges: Are the badges properly capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are dual bed badges separated and individually capped and intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1102313-001.01	1.0 L Source Can					
P1102313-002.01	1.0 L Source Can					
P1102313-003.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

The canisters were not tagged; they were assigned by the asset tag number indicated on the COC.

Canisters were inadvertently shipped to another lab before being sent back to CAS so they were received pressurized.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Aquaterra Environmental Solutions, Inc.
Client Sample ID: CW-1
Client Project ID: 2011 Cottonwood RDF Flare

CAS Project ID: P1102313
CAS Sample ID: P1102313-001

Test Code: ASTM D3588-98
Analyst: Wade Henton/Dante Munoz-Castaneda
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00246

Date Collected: 6/7/11
Date Received: 6/20/11

Initial Pressure (psig): 12.11 **Final Pressure (psig):** 12.11

Canister Dilution Factor: 1.00

Components	Result	Result	Data Qualifier
	Volume %	Weight %	
Hydrogen	0.36	0.03	
Oxygen + Argon	1.32	1.52	
Nitrogen	56.77	57.09	
Carbon Monoxide	< 0.01	< 0.01	
Methane	24.27	13.97	
Carbon Dioxide	17.21	27.19	
Hydrogen Sulfide	< 0.01	< 0.01	
Ethane	< 0.01	< 0.01	
Propane	< 0.01	< 0.01	
Butanes	< 0.01	< 0.01	
Pentanes	0.01	0.04	
Hexanes	0.01	0.03	
> Hexanes	0.03	0.12	
TOTALS	99.99	99.99	

Components	Mole %	Weight %
Carbon	14.34	18.00
Hydrogen	33.91	3.57
Oxygen + Argon	12.73	21.30
Nitrogen	39.02	57.13
Sulfur	< 0.10	< 0.10

Specific Gravity (Air = 1)		0.9618
Specific Volume	ft ³ /lb	13.62
Gross Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/ft ³	249.6
Net Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/ft ³	224.8
Gross Heating Value (Water Saturated at 0.25636 psia)	BTU/ft ³	245.0
Net Heating Value (Water Saturated at 0.25636 psia)	BTU/ft ³	220.6
Gross Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/lb	3,400.7
Net Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/lb	3,062.2
Compressibility Factor "Z" (60 F, 14.696 psia)		0.9988

RESULTS OF ANALYSIS

Page 1 of 1

Client: Aquaterra Environmental Solutions, Inc.
Client Sample ID: CW-2
Client Project ID: 2011 Cottonwood RDF Flare

CAS Project ID: P1102313
CAS Sample ID: P1102313-002

Test Code: ASTM D3588-98
Analyst: Wade Henton/Dante Munoz-Castaneda
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00063

Date Collected: 6/7/11
Date Received: 6/20/11

Initial Pressure (psig): 12.01 **Final Pressure (psig):** 12.01

Canister Dilution Factor: 1.00

Components	Result	Result	Data Qualifier
	Volume %	Weight %	
Hydrogen	0.40	0.03	
Oxygen + Argon	0.27	0.31	
Nitrogen	52.43	52.82	
Carbon Monoxide	< 0.01	< 0.01	
Methane	27.37	15.79	
Carbon Dioxide	19.44	30.78	
Hydrogen Sulfide	< 0.01	< 0.01	
Ethane	< 0.01	< 0.01	
Propane	< 0.01	< 0.01	
Butanes	< 0.01	< 0.01	
Pentanes	0.01	0.04	
Hexanes	0.01	0.04	
> Hexanes	0.05	0.19	
TOTALS	99.99	99.99	

Components	Mole %	Weight %
Carbon	15.58	20.40
Hydrogen	36.80	4.04
Oxygen + Argon	13.01	22.70
Nitrogen	34.61	52.86
Sulfur	< 0.10	< 0.10

Specific Gravity (Air = 1)		0.9600
Specific Volume	ft ³ /lb	13.65
Gross Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/ft ³	282.2
Net Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/ft ³	254.1
Gross Heating Value (Water Saturated at 0.25636 psia)	BTU/ft ³	276.9
Net Heating Value (Water Saturated at 0.25636 psia)	BTU/ft ³	249.4
Gross Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/lb	3,851.6
Net Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/lb	3,468.5
Compressibility Factor "Z" (60 F, 14.696 psia)		0.9987

RESULTS OF ANALYSIS

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Client: Aquaterra Environmental Solutions, Inc.
Client Sample ID: CW-3
Client Project ID: 2011 Cottonwood RDF Flare

CAS Project ID: P1102313
CAS Sample ID: P1102313-003

Test Code: ASTM D3588-98
Analyst: Wade Henton/Dante Munoz-Castaneda
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00774

Date Collected: 6/7/11
Date Received: 6/20/11

Initial Pressure (psig): 11.58 Final Pressure (psig): 11.58

Canister Dilution Factor: 1.00

Components	Result Volume %	Result Weight %	Data Qualifier
Hydrogen	< 0.01	< 0.01	
Oxygen + Argon	11.48	12.91	
Nitrogen	88.00	86.58	
Carbon Monoxide	< 0.01	< 0.01	
Methane	0.28	0.16	
Carbon Dioxide	0.22	0.34	
Hydrogen Sulfide	< 0.01	< 0.01	
Ethane	< 0.01	< 0.01	
Propane	< 0.01	< 0.01	
Butanes	< 0.01	< 0.01	
Pentanes	< 0.01	< 0.01	
Hexanes	< 0.01	< 0.01	
> Hexanes	< 0.01	< 0.01	
TOTALS	99.99	99.99	

Components	Mole %	Weight %
Carbon	0.25	0.21
Hydrogen	0.56	< 0.10
Oxygen + Argon	11.64	13.16
Nitrogen	87.54	86.59
Sulfur	< 0.10	< 0.10

Specific Gravity (Air = 1)		0.9830
Specific Volume	ft ³ /lb	13.33
Gross Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/ft ³	2.9
Net Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/ft ³	2.6
Gross Heating Value (Water Saturated at 0.25636 psia)	BTU/ft ³	2.8
Net Heating Value (Water Saturated at 0.25636 psia)	BTU/ft ³	2.5
Gross Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/lb	38.2
Net Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/lb	34.4
Compressibility Factor "Z" (60 F, 14.696 psia)		0.9997

RESULTS OF ANALYSIS

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Client: Aquaterra Environmental Solutions, Inc.

Client Sample ID: CW-1

Client Project ID: 2011 Cottonwood RDF Flare

CAS Project ID: P1102313

CAS Sample ID: P1102313-001

Test Code: EPA Method 3C Modified

Instrument ID: HP5890 II/GC1/TCD

Analyst: Dante Munoz-Castaneda

Sampling Media: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00246

Date Collected: 6/7/11

Date Received: 6/20/11

Date Analyzed: 6/29/11

Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): 12.11

Final Pressure (psig): 12.11

Canister Dilution Factor: 1.00

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	0.385	0.10	
7782-44-7	Oxygen +			
7440-37-1	Argon	1.32	0.10	
7727-37-9	Nitrogen	56.8	0.10	
630-08-0	Carbon Monoxide	ND	0.10	
74-82-8	Methane	24.3	0.10	
124-38-9	Carbon Dioxide	17.2	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

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Client: Aquaterra Environmental Solutions, Inc.

Client Sample ID: CW-2

Client Project ID: 2011 Cottonwood RDF Flare

CAS Project ID: P1102313

CAS Sample ID: P1102313-002

Test Code: EPA Method 3C Modified

Instrument ID: HP5890 II/GC1/TCD

Analyst: Dante Munoz-Castaneda

Sampling Media: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00063

Date Collected: 6/7/11

Date Received: 6/20/11

Date Analyzed: 6/29/11

Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): 12.01

Final Pressure (psig): 12.01

Canister Dilution Factor: 1.00

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	0.404	0.10	
7782-44-7	Oxygen +			
7440-37-1	Argon	0.269	0.10	
7727-37-9	Nitrogen	52.4	0.10	
630-08-0	Carbon Monoxide	ND	0.10	
74-82-8	Methane	27.4	0.10	
124-38-9	Carbon Dioxide	19.4	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

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RESULTS OF ANALYSIS

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Client: Aquaterra Environmental Solutions, Inc.

Client Sample ID: CW-3

Client Project ID: 2011 Cottonwood RDF Flare

CAS Project ID: P1102313

CAS Sample ID: P1102313-003

Test Code: EPA Method 3C Modified

Instrument ID: HP5890 II/GC1/TCD

Analyst: Dante Munoz-Castaneda

Sampling Media: 1.0 L Summa Canister

Test Notes:

Container ID: 1SC00774

Date Collected: 6/7/11

Date Received: 6/20/11

Date Analyzed: 6/29/11

Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): 11.58

Final Pressure (psig): 11.58

Canister Dilution Factor: 1.00

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.10	
7782-44-7	Oxygen +			
7440-37-1	Argon	11.5	0.10	
7727-37-9	Nitrogen	88.0	0.10	
630-08-0	Carbon Monoxide	ND	0.10	
74-82-8	Methane	0.280	0.10	
124-38-9	Carbon Dioxide	0.222	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

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Client: Aquaterra Environmental Solutions, Inc.

Client Sample ID: Method Blank

Client Project ID: 2011 Cottonwood RDF Flare

CAS Project ID: P1102313

CAS Sample ID: P110629-MB

Test Code: EPA Method 3C Modified

Instrument ID: HP5890 II/GC1/TCD

Analyst: Dante Munoz-Castaneda

Sampling Media: 1.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 6/29/11

Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.10	
7782-44-7	Oxygen +			
7440-37-1	Argon	ND	0.10	
7727-37-9	Nitrogen	ND	0.10	
630-08-0	Carbon Monoxide	ND	0.10	
74-82-8	Methane	ND	0.10	
124-38-9	Carbon Dioxide	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

LABORATORY CONTROL SAMPLE SUMMARY

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Client: Aquaterra Environmental Solutions, Inc.

Client Sample ID: Lab Control Sample

Client Project ID: 2011 Cottonwood RDF Flare

CAS Project ID: P1102313

CAS Sample ID: P110629-LCS

Test Code: EPA Method 3C Modified

Instrument ID: HP5890 II/GC1/TCD

Analyst: Dante Munoz-Castaneda

Sampling Media: 1.0 L Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 6/29/11

Volume(s) Analyzed: NA ml(s)

CAS #	Compound	Spike Amount ppmV	Result ppmV	% Recovery	CAS Acceptance Limits	Data Qualifier
1333-74-0	Hydrogen	40,300	41,600	103	83-122	
7782-44-7	Oxygen +					
7440-37-1	Argon	50,000	50,000	100	74-132	
7727-37-9	Nitrogen	49,800	48,800	98	76-126	
630-08-0	Carbon Monoxide	49,900	54,000	108	84-113	
74-82-8	Methane	40,300	42,000	104	84-113	
124-38-9	Carbon Dioxide	50,000	51,700	103	87-117	

RESULTS OF ANALYSIS

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Client: Aquaterra Environmental Solutions, Inc.

Client Project ID: 2011 Cottonwood RDF Flare

CAS Project ID: P1102313

Total Gaseous Nonmethane Organics (TGNMO) as Methane

Test Code: EPA Method 25C Modified

Instrument ID: HP5890 II/GC1/FID/TCA

Analyst: Dante Munoz-Castaneda

Sampling Media: 1.0 L Summa Canister(s)

Test Notes:

Date(s) Collected: 6/7/11

Date Received: 6/20/11

Date Analyzed: 6/24/11

Client Sample ID	CAS Sample ID	Canister Dilution Factor	Injection Volume ml(s)	Result ppmV	MRL ppmV	Data Qualifier
CW-1	P1102313-001	1.00	0.50	3,100	1.0	
CW-2	P1102313-002	1.00	0.50	3,700	1.0	
CW-3	P1102313-003	1.00	0.50	36	1.0	
Method Blank	P110624-MB	1.00	0.50	ND	1.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

LABORATORY CONTROL SAMPLE SUMMARY

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Client: Aquaterra Environmental Solutions, Inc.
Client Sample ID: Lab Control Sample
Client Project ID: 2011 Cottonwood RDF Flare

CAS Project ID: P1102313
 CAS Sample ID: P110624-LCS

Test Code: EPA Method 25C Modified
Instrument ID: HP5890 II/GC1/FID/TCA
Analyst: Dante Munoz-Castaneda
Sampling Media: 1.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 6/24/11
Volume(s) Analyzed: NA ml(s)

Compound	Spike Amount ppmV	Result ppmV	% Recovery	CAS	Data Qualifier
				Acceptance Limits	
Total Gaseous Nonmethane Organics (TGNMO) as Methane	98.8	97.7	99	71-136	